

NASA Explorer Schools News

*A monthly newsletter
for the teachers of
tomorrow's explorers*

Featured Mission

What's NASA doing about gravity?

Gravity is the natural force that causes objects to be attracted to one another. This means that all objects tend to be attracted to all other objects in the universe. The pull of gravity grows stronger the closer to Earth objects are to each other. Gravity is the force that keeps us on Earth. This force pulls us to Earth. It causes us to feel weight. Gravity also pulls the Moon toward the Earth. It keeps the Moon in orbit around Earth. It also keeps Earth in orbit around the Sun.



We refer to an environment of small or low levels of gravity as a microgravity environment. Humans feel weightless in microgravity. We can travel into areas of microgravity for short visits with little trouble. But being in microgravity for more than a few days can start to cause problems. Our bodies depend on gravity to help keep blood and other fluids flowing properly. Gravity also helps keep our muscles and bones strong. In microgravity, muscles

and bones get weak. On the International Space Station (ISS), astronauts must use special exercise equipment to slow down the bad effects of microgravity.

NASA will send humans to the Moon and to Mars. This means astronauts will stay in microgravity for many months at a time. Scientists working with NASA and the University of Texas Medical Branch will begin an experiment this summer. Volunteers will stay in bed for three weeks. This will be like being in microgravity. The science team will put half of the volunteers on a centrifuge. A centrifuge is a machine that is built to rotate. The volunteers will lie on the arm of the centrifuge with their feet pointing out. They will spin them for an hour each day. The rotating of the centrifuge gives the same effect of gravity as if the volunteer were standing up on Earth. Then the scientists will compare the volunteers who spun with those who did not. The team hopes to show that those who spun have fewer effects from their time in bed than those who did not. The centrifuge could be the key to healthier space travel for humans in the future.

www.nasa.gov/centers/johnson/news/releases/H05-109.html

NESN Puzzler

Which scientist came up with the Theory of Relativity?

The first ten individual NES students to send the correct answer will win a NASA prize! Send us your name, your teacher's name, your school's name and the school's address. Answer to last month's puzzler: Dr. Mae C. Jemison, STS-47.

NASA Explorers are people like you

Name: Jessica Collisson

Education: BS Aeronautical Engineering,
BS Mechanical Engineering

Job Title: Integration and Test Engineer

Jessica works at NASA's Jet Propulsion Laboratory in California. She is an engineer.



She works on testing spacecraft hardware. She was part of the team that tested the Mars Exploration Rovers. This included building and operating a test rover in an experimental environment and in the desert. Ms. Collisson was a Flight Director for the Opportunity and Spirit Rovers that landed on Mars. Now she is testing a new spacecraft electronics system for the next vehicle going to Mars. Jessica thinks the coolest part of her job is learning how the whole spacecraft operates. "You really get a feel of how the system is put together and works. All that time playing in the garage really pays off!" While not testing at JPL, Jessica likes to spend time at the beach. She likes to watch the sun set after spending a day reading on the sand.

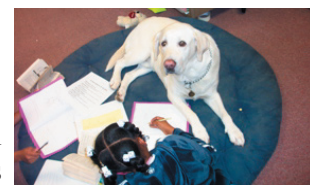
NES Spotlight

Franke Park Elementary School

Students: 607

Faculty: 35

Franke Park Elementary School is in Fort Wayne, Indiana. It was founded in 1960. The school is near the Fort Wayne Zoo. The zoo is a partner in education with the school and the school's district. Each spring, the school hosts a Science Fair and a Math Bowl. The school is the "Schoolyard Habitat National Wildlife" winner. Franke Park Elementary has a large English as a Second Language program. They enroll students from around the world. What is Franke Park Elementary's big secret? It is Luke, a yellow Labrador Retriever. The students at the school have loved him for the last ten years!



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